

# **EXHIBIT A**



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/000,328	01/14/2008	6892211	347155-29	4693
24267 7590 08/28/2008 CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			EXAMINER CHOI, WOO H	
			ART UNIT	PAPER NUMBER
			3992	
			MAIL DATE	DELIVERY MODE
			08/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**MAILED**

**AUG 28 2008**

CENTRAL REEXAMINATION UNIT

**Transmittal of Communication to Third Party Requester  
Inter Partes Reexamination**

REEXAMINATION CONTROL NO. : 95000328  
PATENT NO. : 6892211  
TECHNOLOGY CENTER : 3999  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified Reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

<b>OFFICE ACTION IN INTER PARTES REEXAMINATION</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,328	6892211	
	<b>Examiner</b>	<b>Art Unit</b>	
	Woo H. Choi	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on 14 January 2008

Third Party(ies) on \_\_\_\_\_

**RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:**

*For Patent Owner's Response:*

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

*For Third Party Requester's Comments on the Patent Owner Response:*

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

**All correspondence** relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

**PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☒ Information Disclosure Citation, PTO/SB/08
3. ☐ \_\_\_\_\_

**PART II. SUMMARY OF ACTION:**

- 1a. ☒ Claims 1-24 are subject to reexamination.
- 1b. ☐ Claims \_\_\_\_\_ are not subject to reexamination.
2. ☐ Claims \_\_\_\_\_ have been canceled.
3. ☐ Claims \_\_\_\_\_ are confirmed. [Unamended patent claims]
4. ☐ Claims \_\_\_\_\_ are patentable. [Amended or new claims]
5. ☒ Claims 1-24 are rejected.
6. ☐ Claims \_\_\_\_\_ are objected to.
7. ☐ The drawings filed on \_\_\_\_\_ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on \_\_\_\_\_ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:  
☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95000328.
10. ☐ Other \_\_\_\_\_

<b>Transmittal of Communication to Third Party Requester Inter Partes Reexamination</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,328	6892211	
	<b>Examiner</b>	<b>Art Unit</b>	
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If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

<b>INTER PARTES REEXAMINATION COMMUNICATION</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,328	6892211	
	<b>Examiner</b>	<b>Art Unit</b>	
	Woo H. Choi	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS ACTION IS SET TO EXPIRE  
☒ 2 MONTH(S) ☐ THIRTY DAYS FROM THE MAILING DATE OF THIS LETTER. EXTENSIONS  
 OF TIME FOR PATENT OWNER ARE GOVERNED BY 37 CFR 1.956.

Each time the patent owner responds to this Office action, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 2

### **INTER PARTES REEXAMINATION OFFICE ACTION**

1. This is an *inter partes* reexamination of U.S. Patent No. 6,892,211 ('983 patent). All claims are subject to reexamination.

#### ***References Cited in the Request***

- A. Quinlan, *A Cached WORM File System*, Software - Practice and Experience, Vol. 21 (12), pp: 1289-99, December 1991 ("Quinlan");
- B. Popek, Walker, *The LOCUS Distributed System Architecture*, MIT Press, Cambridge, Mass., 1985 ("Popek");
- C. Ylonen, *Concurrent Shadow Paging: A New Direction for Database Research*, TKO-B86, Helsinki University of Technology, 1992, ("Ylonen");
- D. Margo Ilene Seltzer, *File System Performance and Transaction Support*, Doctoral Dissertation, UC Berkeley, 1992 ("Seltzer");
- E. Schilling, *Design and implementation of a fast file system for Unix with special consideration of technical parameters of optical storage media and multimedia application*, Thesis submitted to Technical University of Berlin on 5/23/1991, translated from German ("Schilling");
- F. Leffler et al., *4.3 BSD Unix Operating System*, Addison-Wesley Publishing Co., 1990 ("Leffler");
- G. Bach, *The Design of the Unix Operating System*, Prentice Hall, 1990 ("Bach");
- H. Rosenblum, et al., *The LFS Storage Manager*, presented at USENIX Tech. Conf. Anaheim, CA, 1990 ("Rosenblum I");
- I. Rosenblum, et al., *The Design and Implementation of a Log-Structured File System*, Proceedings of the 13th ACM Symposium on Operating Systems Principles, 1991 ("Rosenblum II");
- J. Kent, *Performance and Implementation Issues in Database Crash Recovery*, Ph.D. Dissertation, Princeton University, 1985 ("Kent");
- K. U.S. Patent No. 5,379,391 ("Belsan");

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 3

L. U.S. Patent No. 5,218,695 ("Noveck");

M. Gray et al., *The Recovery Manager of the System R Database Manager*, ACM, 1981 ("Gray").

***Statutory Bases for Rejections - 35 USC §§ 102 and 103***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Rejections Proposed in the Request***

4. The Requester asserts eleven (11) separate bases for "invalidity" without articulating statutory grounds for the proposed rejections. The following is the list of proposed rejections as



Application/Control Number: 95/000,328

Page 4

Art Unit: 3992

categorized by the Examiner based on the Third party's assertion of invalidity found on pages 10-81 of the Request received January 14, 2008.

The following rejections are proposed by the Requester:

First Basis of Invalidity as asserted by the Requester

Ground 1: Claims 1-3, 5-11, 13-19, and 21-24 are anticipated by Quinlan.

Ground 2: Claims 4, 12, and 20 are obvious over Quinlan.

Second Basis of Invalidity

Ground 3: Claims 1-3, 9-11, and 17-19 are anticipated by Popek.

Ground 4: Claims 4, 12, and 20 are obvious over Popek.

Ground 5: Claims 5-8, 13-16, 21-24 are obvious over Popek in view of Ylonen.

Third Basis of Invalidity

Ground 6: Claims 1-3, 5-6, 9-11, 13-14, 17-19, and 21-22 are anticipated by Seltzer.

Ground 7: Claims 4, 12, and 20 are obvious over Seltzer.

Fourth Basis of Invalidity

Ground 8: Claims 1-24 are anticipated by Schilling.

Fifth Basis of Invalidity

Ground 9: Claims 1-3, 9-11, and 17-19 are anticipated by Leffler as evidenced by Bach.

Ground 10: Claims 4, 12, and 20 are obvious Leffler.

Sixth Basis of Invalidity

Ground 11: Claims 1-3, 9-11, and 17-19 are anticipated by Rosenblum I.

Ground 12: Claims 4, 12, and 20 are obvious over Rosenblum I in view of Leffler.

Application/Control Number: 95/000,328

Page 5

Art Unit: 3992

Ground 13: Claims 6-8, 13-16, and 21-24 are obvious over Rosenblum I in view of Ylonen.

Seventh Basis of Invalidity

Ground 14: Claims 1-3, 9-11, 17-19 are obvious over Kent in view of Popek.

Ground 15: Claims 5-8, 13-16, 21-24 are obvious over Kent in view of Popek and further in view of Ylonen.

Eighth Basis of Invalidity

Ground 16: Claims 1-3, 5, 6, 9-11, 13, 14, 17-19, 21, and 22 are anticipated by Rosenblum II.

Ground 17: Claims 4, 12, and 20 are obvious over Rosenblum II in view of Leffler.

Ninth Basis of Invalidity

Ground 18: Claims 1, 9, and 17 are anticipated by Belsan.

Tenth Basis of Invalidity

Ground 19: Claims 1, 9, and 17 are anticipated by Noveck.

Eleventh Basis of Invalidity

Ground 20: Claims 1-6, 6-14, and 17-22 are anticipated by Gray.

*Summary of Rejections*

5. The following list is the summary of rejections in this office action.

Ground 1: Anticipation by Quinlan

Proposed rejections of claims 1-3, 9-11, and 17-19 are adopted.

Proposed rejections of claims 5-8, 13-16, and 21-24 are not adopted.

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 6

Ground 2: Obviousness over Quinlan

Proposed rejections of claims 4, 12, and 20 are adopted as modified.

Ground 3: Anticipation by Popek

Proposed rejections of claims 1-3, 9-11, and 17-19 are adopted.

Ground 4: Obviousness over Popek

Proposed rejections of claims 4, 12, and 20 are not adopted.

Ground 5: Obviousness over Popek in view of Ylonen

Proposed rejections of claims 5-8, 13-16, 21-24 are adopted.

Ground 6: Anticipation by Seltzer

Proposed rejections of claims 1-3, 9-11, and 17-19 are adopted.

Proposed rejections of claims 4-6, 12-14, and 20-22 are not adopted.

Ground 7: Obviousness over Seltzer

Proposed rejections of claims 4, 12, and 20 are not adopted.

Ground 8: Anticipation by Schilling

Proposed rejections of claims 1, 9, and 17 are adopted.

Proposed rejections of claims 2-8, 10-16, and 18-24 are not adopted.

The Examiner rejects 2-3, 10-11, and 18-19 as being obvious over Schilling.

Ground 9: Anticipation by Leffler

Proposed rejections of claims 1, 9, and 17 are adopted.

Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted.

The Examiner rejects 2-3, 10-11, and 18-19 as being obvious over Leffler.

Ground 10: Obviousness over Leffler

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 7

Proposed rejections of claims 4, 12, and 20 are not adopted.

Ground 11: Anticipation by Rosenblum I

Proposed rejections of claims 1, 9, and 17 are adopted.

Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted.

The Examiner rejects 2-3, 10-11, and 18-19 as being obvious over Rosenblum I.

Ground 12: Obviousness over Rosenblum I in view of Leffler

Proposed rejections of claims 4, 12, and 20 are not adopted.

Ground 13: Obviousness over Rosenblum I in view of Ylonen

Proposed rejections of claims 5-8, 13-16, 21-24 are not adopted.

Ground 14: Obviousness over Kent in view of Popek

Proposed rejections of claims 1-3, 9-11, and 17-19 are adopted.

Ground 15: Obviousness over Kent in view of Popek and Ylonen

Proposed rejections of claims 5-8, 13-16, 21-24 are adopted.

Ground 16: Anticipation by Rosenblum II

Proposed rejections of claims 1, 9, and 17 are adopted.

Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted.

The Examiner rejects 2-3, 10-11, and 18-19 as being obvious over Rosenblum II.

Ground 17: Obviousness over Rosenblum II in view of Leffler

Proposed rejections of claims 4, 12, and 20 are not adopted.

Ground 18: Anticipation by Belsan

Proposed rejections of claims 1, 9, and 17 are not adopted.

Ground 19: Anticipation by Noveck

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 8

Proposed rejections of claims 1, 9, and 17 are adopted.

Ground 20: Anticipation by Gray

Proposed rejections of claims 1-6, 6-14, and 17-22 are not adopted.

***Discussion of Rejections***

6. As a preliminary matter, the Examiner notes that the Requester alleges inherent teachings in many of the proposed claims. In all of the rejections proposed by the Requester and adopted by the Examiner in this action, any allegation of “inherent teachings” is to be substituted with “express, implicit, or inherent teachings.”

**Ground 1**

7. Requester asserts that claims 1-3, 5-11, 13-19, and 21-24 are anticipated by Quinlan. Requester's proposed rejections of claims 1-3, 9-11, and 17-19 are adopted. Requester's proposed rejections of claims 5-8, 13-16, and 21-24 are not adopted for the reasons discussed below.

8. Claim 1-3, 9-11, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Quinlan. The proposed rejections of these claims are essentially adopted as set forth in the Request. See Request pp.10-12 (claims 1-3), 12-14 (claims 9-11), and 15-17 (claims 17-19), which are hereby incorporated by reference.

Application/Control Number: 95/000,328

Page 9

Art Unit: 3992

9. The proposed rejections of claims 5-8, 13-16, and 21-24 are not adopted. Each of these claims requires the step of creating a snapshot of the file system by copying **only** the on-disk root inode (see Figure 18). In contrast, in Quinlan's system, a snapshot is created by flushing the WORM cache (p. 1294), writing the updated "in-core" superblock as well as other modified or updated (dirty) blocks to the storage system.

### **Ground 2**

10. Requester asserts that claims 4, 12, and 20 are obvious in view of Quinlan. The proposed rejections are **adopted as modified** below.

11. **Claim 4, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinlan.**

Quinlan discloses that **updating said on-disk root inode further compris[es] updating said on-disk root inode** (page 1295, Figure 3, superblock is updated with pointers to the blocks that have been flushed from the WORM cache) and **[then] a copy of said on-disk root inode** (see Figure 3, the "next" pointer in the original copy of the superblock is updated to point to the updated superblock) **such that if updating said on-disk root inode is interrupted, said copy of said on-disk root inode still points to said consistent state of said file system** (in Quinlan's WORM file system, the original copy of the superblock always points to the consistent state of the file system regardless of what happens during an update operation). However, Quinlan does not specifically disclose that updating the on-disk root inode occurs before updating of the copy of the on-disk root inode. Quinlan does not specify in which order the updating operation is to

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 10

be conducted. On the other hand, the order in which the updating occurs has no effect on the ability of the system to recover if the updating operation is interrupted, because the top copy of the super block shown in Figure 3b always points to the consistent state of the file system before the "dump" operation. It would have been obvious to one of ordinary skill in the art, having the teachings of Quinlan before him at the time the invention was made, to choose the order of the update operation as claimed, because it makes no difference in Quinlan's system in which order the update operation occurs. One order is as good as any other order.

### **Ground 3**

12. The Requester asserts that claims 1-3, 9-11, and 17-19 are anticipated by Popek.

Requester's proposed rejections of claims 1-3, 9-11, and 17-19 are **adopted**.

13. Claim 1-3, 9-11, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Popek. The proposed rejections of these claims are adopted essentially as set forth in the Request. See Request pp.19-20 (claims 1-3), 21-23 (claims 9-11), and 24-25 (claims 17-19), which are hereby incorporated by reference.

### **Ground 4**

14. Requester asserts that claims 4, 12, and 20 are obvious in view of Popek. The proposed rejections are **not adopted** as explained below.

Application/Control Number: 95/000,328

Page 11

Art Unit: 3992

15. The Requester asserts that "replicating the metadata, such as a root inode, is a technique that is well known in the art." The Requester then concludes that "[i]n view of the knowledge in the art, it would have been obvious for one of ordinary skill to make a copy of the root inode to recover from crashes that corrupt the primary copy of the root inode" (see page 24). The Examiner does not necessarily disagree with the Requester's assertions that replicating a root inode is known in the art and that it would have been obvious to make a copy of the root inode for back up. However, these assertions do not address every element of the claims. Each of the claims listed above requires that the on-disk root inode be updated and then a copy of the on-disk inode be updated so that the copy of the root inode still points to the first consistent state of the file system. The proposed rejection only asserts that making a copy of the root inode, which is not even an element of the claims, would have been obvious without addressing any of the other elements of the claim.

#### **Ground 5**

16. Requester asserts that claims 5-8, 13-16, 21-24 are obvious over Popek in view of Ylonen. The proposed rejections are **adopted as supplemented** below. See Request pp.20-21 (claims 5-8), 23-24 (claims 13-16), and 26-27 (claims 21-24), which are hereby incorporated by reference.

17. **Claim 4, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popek in view of Ylonen.**



Application/Control Number: 95/000,328

Page 12

Art Unit: 3992

18. With respect to claims 5, 13, and 21, Popek discloses all of the limitations of the parent claims as discussed above. However, Popek does not specifically disclose **creating a snapshot of said file system by copying only said on-disk root inode**. On the other hand, Ylonen discloses creating a snapshot of the entire database by saving the address of the page table (i.e., **“copying only said on-disk root inode”**) and preventing freeing of pages that are in use by the snapshot (Ylonen, page 4, Section 8 Snapshots). As explained by the Requester, a page table pointer in a shadow paging file structure corresponds to a root inode in LOCUS which also uses a shadow page mechanism to maintain its file structure. It would have been obvious to one of ordinary skill in the art, having the teachings of Popek and Ylonen before him at the time the invention was made, to include the snapshot feature of Ylonen’s shadowed file structure in the shadowed file structure of Popek’s system, to implement consistent dumping of the file structure as well as to implement optimistic multiversion concurrency control (Ylonen, page 4, Section 8 Snapshots).

19. With respect to claims 6, 14, and 22, see Requester’s explanation on page 6.

20. With respect to claims 7, 15, and 23, see Ylonen, page 4, Figure 2.

21. With respect to claims 8, 16, and 24, see Requester’s explanation on page 6.

#### **Ground 6**

Application/Control Number: 95/000,328

Page 13

Art Unit: 3992

22. The Requester asserts that claims 1-3, 5-6, 9-11, 13-14, 17-19, and 21-22 are anticipated by Seltzer. Requester's proposed rejections of claims 1-3, 9-11, and 17-19 are adopted with supplemental explanations where necessary. Requester's proposed rejections of claims 4-6, 12-14, and 20-22 are not adopted for the reasons discussed below.

23. Claim 1-3, 9-11, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Seltzer. The proposed rejections of these claims are adopted essentially as set forth in the Request. See Request pp.27-29 (claims 1-3), 29-31 (claims 9-11), and 32-33 (claims 17-19), which are hereby incorporated by reference.

24. With respect to claims 2, 10, and 18, Seltzer discloses that the unit of atomicity in BSD-LFS is a partial segment (page 88, second paragraph). Seltzer also discloses that LFS flushes data in partial segments (page 72, first full paragraph). Thus, whenever LSF flushes data contained in a partial segment, the on-disk file system atomically transitions from one consistency state to another. Seltzer also recognizes the need for disk write (flush) operations involving multiple inodes to be atomic as well (page 88, second paragraph, "Since directory operations affect multiple inodes ... BSD-LFS must guarantee that either both of the inodes and associated changes get written to disk or neither does") and discloses a segment batching technique that is essentially an atomic operation (page 33, third and fourth paragraphs) for creating checkpoints with snapshots.

Application/Control Number: 95/000,328

Page 14

Art Unit: 3992

25. The proposed rejections of claims 5-6, 13-14, and 21-22 are not adopted. Each of these claims requires the step of creating a snapshot of the file system by copying **only** the on-disk root inode (see Figure 18). In contrast, in Seltzer's LFS system, a snapshot is created by writing an invisible *ifile* that contains the inode map and segment usage table (see page 86, 6.3.2. The IFILE) along with other dirty blocks (see page 72 and 88).

### **Ground 7**

26. Requester asserts that claims 4, 12, and 20 are obvious in view of Seltzer. The proposed rejections are **not adopted** as explained below.

27. The Requester asserts that "[i]n view of [Seltzer's teaching of replicating the superblock to allow recovery from crashes], it would have been obvious for one of ordinary skill to make a copy of the root inode to recover from crashes that corrupt the primary copy of the root inode." The Examiner does not necessarily disagree with the Requester's assertions that replicating a root inode is known in the art and that it would have been obvious to make a copy of the root inode for back up. However, the proposed rejections do not address every element of the claims. Each of the claims listed above requires that the on-disk root inode be updated and then a copy of the on-disk inode be updated so that the copy of the root inode still points to the first consistent state of the file system. The Requester merely asserts that making a copy of the root inode, which is not even an element of the claims, would have been obvious without addressing any of the other elements of the claim.

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 15

**Ground 8**

28. Requester asserts that claims 1-24 are anticipated by Schilling. Requester's proposed rejections of claims 1, 9, and 17 are **adopted**. Requester's proposed rejections of claims 2-8, 10-16, and 18-24 are **not adopted** for the reasons discussed below. However, the Examiner rejects claims 2-3, 10-11, and 18-19 as being obvious over Schilling.

29. Claim 1, 9, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Schilling. The proposed rejections of these claims are substantially adopted as set forth in the Request. See Request pp. 34-35 (claim 1), 36-37 (claim 9), and 38-39 (claims 17), which are hereby incorporated by reference. In the proposed rejections, the Requester asserts that a superblocks is a root inode. However, the evidence suggests otherwise. Unlike the superblock disclosed by Quinlan (see Quinlan Figure 3) which contains a pointer to the file structure so that the entire file system directory structure is accessible from this node, in a standard Unix system, as taught by Bach (see page 24), the superblock is followed by a list of inodes that contains the root inode through which the file system structure is accessed. Thus, a Unix superblock does not seem to comprise a root inode. Nevertheless, the proposed rejection seems proper because Schilling does disclose that the entire range of the active gnodes (which includes a root inode or gnode) must be read into the cache (pp. 86-87, Section 1.4.2).

30. Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted. Each of these claims requires the file system on disk to always move atomically from one consistent state to another consistent state. The Requester alleges that Schilling teaches this limitation in Section

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 16

1.2.7.2. However, closer inspection of the section does not reveal any atomic transition from one consistent state to another. While the Examiner recognizes the obviousness of the limitations claimed as discussed below, obviousness is not anticipation as the Requester alleges.

31. The proposed rejections claims 4, 12, and 20 are not adopted. The Requester asserts that "replicating the metadata, such as a root inode, is a technique that is well known in the art." The Requester also states that Schilling teaches that the superblock is replicated to allow recovery from crashes that corrupt the primary copy of the superblock. As explained above, there's no evidence that Schilling's superblocks are root inodes. Moreover, the propose rejections do not address every element of the claims. Each of the claims listed above requires that the on-disk root inode be updated and then a copy of the on-disk inode be updated so that the copy of the root inode still points to the first consistent state of the file system. The proposed rejections only assert that Schilling teaches replicating superblock without addressing any of the elements of the claim.

32. The proposed rejections of claims 5-8, 13-16, and 21-24 are not adopted. Each of these claims requires the step of creating a snapshot of the file system by copying **only** the on-disk root inode (see Figure 18). While the Examiner agrees that "Schilling teaches that old versions of gnodes and associated data (equivalent to snapshots) are retained because WORM disks cannot be erased" (Request page 35), this does not teach that the snapshot of the file system is created by copying **only** the on-disk root inode.

Application/Control Number: 95/000,328

Page 17

Art Unit: 3992

33. Claim 2-3, 10-11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling.

34. Schilling discloses all of the limitations of the parent claims as discussed above. However, Schilling does not specifically disclose that the file system on the storage system always moves atomically from the first consistent state to the second consistent state. On the other hand, one skilled in the art is well aware of potential file system inconsistency problems associated with file system updates as evidenced by Quinlan, Popek, and Seltzer's disclosures discussed above. This problem is recognized by Schilling as well (see page 18, section 1.2.7 Safety during system collapses). It would have been obvious to one of ordinary skill in the art, having the teachings of Schilling before him at the time the invention was made, to make a file system update operation atomic to avoid potential file system inconsistencies. An atomic operation ensures that an update is completed if successful or no update is performed if unsuccessful, reducing the possibility of corrupting the file system with partial updates.

#### Ground 9

35. Requester asserts that claims 1-3, 9-11, and 17-19 are anticipated by Leffler. Requester's proposed rejections of claims 1, 9, and 17 are adopted. Requester's proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted for the reasons discussed below. However, the Examiner rejects claims 2-3, 10-11, and 18-19 as being obvious over Leffler.

Application/Control Number: 95/000,328

Page 18

Art Unit: 3992

36. Claim 1, 9, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Leffler.

The proposed rejections of these claims are essentially adopted as set forth in the Request. See Request pp. 41 (claim 1), 42-43 (claim 9), and 44 (claims 17), which are hereby incorporated by reference.

37. Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted. Each of these claims requires the file system on disk to always move atomically from one consistent state to another consistent state. The Requester asserts that "Leffler teaches that the file system advances during the periodic sync process when dirty buffers, including root inode, are forced to disk" (Request, page 42). The Examiner agrees with the Requester's assertion of what Leffler teaches. However, the Requester has failed to address the claimed limitation of atomic movement from one consistent state to another. While the Examiner recognizes the obviousness of the limitations claimed as discussed below, obviousness is not anticipation as the Requester seems to be alleging.

38. Claim 2-3, 10-11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler.

39. Leffler discloses all of the limitations of the parent claims as discussed above. However, Leffler does not specifically disclose that the file system on the storage system always moves atomically from the first consistent state to the second consistent state. On the other hand, one skilled in the art is well aware of potential file system inconsistency problems associated with

Application/Control Number: 95/000,328

Page 19

Art Unit: 3992

file system updates as evidence by Quinlan, Popek, and Seltzer's disclosures discussed above. It would have been obvious to one of ordinary skill in the art, having the teachings of Leffler before him at the time the invention was made, to make a file system update operation atomic to avoid potential file system inconsistencies. An atomic operation ensures that an update is completed if successful or no update is performed if unsuccessful, reducing the possibility of corrupting the file system with partial updates.

#### **Ground 10**

40. Requester asserts that claims 4, 12, and 20 are obvious in view of Leffler. The proposed rejections are **not adopted** as explained below.

41. The Requester asserts that "replicating the metadata, such as a root inode, is a technique that is well known in the art" and that "Leffler teaches that in the Unix filesystem the superblock is replicated to allow recovery from crashes that corrupt the primary copy of the superblock" (Request, page 42). The Requester then concludes that "[i]n view of the knowledge in the art and Leffler's teaching, it would have been obvious for one of ordinary skill to make a copy of the root inode to recover from crashes that corrupt the primary copy of the root inode" (see page 42). The Examiner does not necessarily disagree with the Requester's assertions that replicating a root inode is known in the art and that it would have been obvious to make a copy of the root inode for back up. However, these assertions do not address every element of the claims. Each of the claims listed above requires that the on-disk root inode be updated and then a copy of the on-disk inode be updated so that the copy of the root inode still points to the first consistent state



Application/Control Number: 95/000,328  
Art Unit: 3992

Page 20

of the file system. The proposed rejections only assert that making a copy of the root inode, which is not even an element of the claims, would have been obvious without addressing any of the other elements of the claim.

### **Ground 11**

42. Requester asserts that claims 1-3, 9-11, and 17-19 are anticipated by Rosenblum I. Requester's proposed rejections of claims 1, 9, and 17 are **adopted**. Requester's proposed rejections of claims 2-3, 10-11, and 18-19 are **not adopted** for the reasons discussed below. However, the Examiner rejects claims 2-3, 10-11, and 18-19 as being obvious over Rosenblum I.

43. Claim 1, 9, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosenblum I. The proposed rejections of these claims are essentially adopted as set forth in the Request. See Request pp. 46 (claim 1), 48-49 (claim 9), and 51 (claims 17), which are hereby incorporated by reference.

44. Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted. Each of these claims requires the file system on disk to always move atomically from one consistent state to another consistent state. The Requester states that "Rosenblum teaches a checkpoint, which marks a consistent state of the file system" (Request, page 44). The Requester then asserts that "[o]nce all modifications are written to disk, a checkpoint regions is written, atomically moving the file system to a new consistent state" (Id). However, the Requester does not explain how this "atomic" operation is taught by Rosenblum. While the Examiner recognizes the obviousness of

Application/Control Number: 95/000,328

Page 21

Art Unit: 3992

the limitations claimed as discussed below, obviousness is not anticipation as the Requester seems to be alleging.

45. Claim 2-3, 10-11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenblum I.

46. Rosenblum I discloses all of the limitations of the parent claims as discussed above. However, Rosenblum I does not specifically disclose that the file system on the storage system always moves atomically from the first consistent state to the second consistent state. On the other hand, one skilled in the art is well aware of potential file system inconsistency problems associated with file system updates as evidenced by Quinlan, Popek, and Seltzer's disclosures discussed above. It would have been obvious to one of ordinary skill in the art, having the teachings of Rosenblum I before him at the time the invention was made, to make a file system update operation atomic to avoid potential file system inconsistencies. An atomic operation ensures that an update is completed if successful or no update is performed if unsuccessful, reducing the possibility of corrupting the file system with partial updates.

#### **Ground 12**

47. Requester asserts that claims 4, 12, and 20 are unpatentable over Rosenblum I in view of Leffler. The proposed rejections are not adopted as explained below.

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 22

48. The Requester asserts that "replicating the metadata, such as a root inode, is a technique that is well known in the art" and that "Leffler teaches that in the Unix filesystem the superblock is replicated to allow recovery from crashes that corrupt the primary copy of the superblock" (Request, pp. 46-47). The Requester then concludes that "[i]n view of the knowledge in the art and [sic], it would have been obvious for one of ordinary skill to make a copy of the root inode to recover from crashes that corrupt the primary copy of the root inode" (see page 47). The Examiner does not necessarily disagree with the Requester's assertions that replicating a root inode is known in the art and that it would have been obvious to make a copy of the root inode for back up. However, these assertions do not address every element of the claims. Each of the claims listed above requires that the on-disk root inode be updated and then a copy of the on-disk inode be updated so that the copy of the root inode still points to the first consistent state of the file system. The proposed rejection only asserts that making a copy of the root inode, which is not even an element of the claims, would have been obvious without addressing any of the other elements of the claim.

### **Ground 13**

49. Requester asserts that claims 5-8, 13-16, and 21-24 are unpatentable Rosenblum I in view of Ylonen. The proposed rejections are **not adopted** as explained below.

50. The claims require the step of creating a snapshot of the file system by copying **only the on-disk root inode**. In contrast, Rosenblum I teaches creation of a snapshot (checkpoint) by writing **all of the memory-resident data structures** the current state of the file system to a

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 23

known disk location (see Rosenblum I, page 9, 4.4.1 Checkpoints). Rosenblum I also discloses that “[o]nce all modifications are safely on disk, a checkpoint region is written that contains a pointer to the last segment written and the locations of the inode map and segment usage map.” Thus, Rosenblum I teaches taking a snapshot by writing updated memory-resident data structures, which presumably contains the in-core root inode if changed, and by writing a pointer to the last segment that contains updated data along with the locations of file system metadata. As to combining Rosenblum’s checkpoint teaching with Ylonen’s teaching of taking snapshots, the Requester does not provide any reason why one of ordinary skill in the art would combine the teachings to replace/supplement Rosenblum’s checkpointing method of taking a snapshot with Ylonen’s method of taking snapshots by saving the pointers to the page table. Thus, the Requester has failed to show the obviousness of combining the teachings to render the claims obvious.

#### **Ground 14**

51. Requester asserts that claims 1-3, 9-11, 17-19 are obvious over Kent in view of Popek. The proposed rejections are **adopted**.

52. Claim 1-3, 9-11, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kent in view of Popek. The proposed rejections are **adopted** substantially as proposed. See Request pp.54-55 (claims 1-3), 57-59 (claims 9-11), and 61-62 (claims 17-19), which are hereby incorporated by reference. As explained by the Requester, databases and file systems are closely related fields in the art and artisans in each art borrow and adopt concepts and techniques from

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 24

the other art as shown by Popek's disclosure. Database systems and file systems share many characteristics, problems, and solutions in common because they are both designed to store and maintain a large amount of information in non-volatile storage media for effective retrieval of relevant information. Many of the techniques related to storage, maintenance and retrieval of information in one field are readily applicable in the other field (e.g., atomic update operations, snapshots, hierarchical data structure, shadowing, metadata and information block caching, incremental backups, etc.).

#### **Ground 15**

53. Requester asserts that claims 5-8, 13-16, and 21-24 are obvious over Kent in view of Popek and further in view of Ylonen. The proposed rejections are **adopted**.

54. Claim 5-8, 13-16, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kent in view of Popek. The proposed rejections are **adopted** substantially as proposed. See Request pp.55-56 (claims 5-8), 59-61 (claims 13-16), and 63-65 (claims 21-24), which are hereby incorporated by reference.

#### **Ground 16**

55. Requester asserts that claims 1-3, 5, 6, 9-11, 13, 14, 17-19, 21, and 22 are anticipated by Rosenblum II. Requester's proposed rejections of claims 1, 9, and 17 are **adopted**. Requester's proposed rejections of claims 2-3, 5, 6, 10-11, 13, 14, 18-19, 21, and 22 are **not adopted** for the

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 25

reasons discussed below. However, the Examiner rejects claims 2-3, 10-11, and 18-19 as being obvious over Rosenblum II.

56. Claim 1, 9, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosenblum II. The proposed rejections of these claims are essentially adopted as set forth in the Request. See Request pp. 65-66 (claim 1), 67-68 (claim 9), and 69-70 (claims 17), which are hereby incorporated by reference.

57. Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted. Each of these claims requires the file system on disk to always move atomically from one consistent state to another consistent state. The Requester states that "Rosenblum and Ousterhout teaches a checkpoint, which marks a consistent state of the file system" (Request, page 66). The Requester then asserts that "[o]nce all modifications are written to disk, a checkpoint regions is written, atomically moving the file system to a new consistent state" (Id). However, the Requester does not explain how this "atomic" operation is taught by Rosenblum II. While the Examiner recognizes the obviousness of the limitations claimed as discussed below, obviousness is not anticipation as the Requester seems to be alleging.

58. Proposed rejections of claims 2-3, 10-11, and 18-19 are not adopted. The claims require the step of creating a snapshot of the file system by **copying only the on-disk root inode**. In contrast, Rosenblum II teaches creation of a snapshot (checkpoint) by writing **all** modified

Application/Control Number: 95/000,328

Page 26

Art Unit: 3992

information to the log, including file data blocks, indirect blocks, inodes, and blocks of the inode map and segment usage table (Rosenblum II, page 9, 4.1. Checkpoints).

59. Claim 2-3, 10-11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenblum II.

60. Rosenblum II discloses all of the limitations of the parent claims as discussed above. However, Rosenblum II does not specifically disclose that the file system on the storage system always moves atomically from the first consistent state to the second consistent state. On the other hand, one skilled in the art is well aware of potential file system inconsistency problems associated with file system updates as evidenced by Quinlan, Popek, and Seltzer's disclosures discussed above. It would have been obvious to one of ordinary skill in the art, having the teachings of Rosenblum II before him at the time the invention was made, to make a file system update operation atomic to avoid potential file system inconsistencies. An atomic operation ensures that an update is completed if successful or no update is performed if unsuccessful, reducing the possibility of corrupting the file system with partial updates.

#### Ground 17

61. Requester asserts that claims 4, 12, and 20 are unpatentable over Rosenblum II in view of Leffler. The proposed rejections are not adopted as explained below.

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 27

62. The Requester asserts that "replicating the metadata, such as a root inode, is a technique that is well known in the art" and that "Leffler teaches that in the Unix filesystem the superblock is replicated to allow recovery from crashes that corrupt the primary copy of the superblock" (Request, p. 66). The Requester then concludes that "[i]n view of the knowledge in the art and the teachings of Leffler and Rosenblum and Ousterhout, it would have been obvious for one of ordinary skill to make a copy of the root inode to recover from crashes that corrupt the primary copy of the root inode" (see page 66). The Examiner does not necessarily disagree with the Requester's assertions that replicating a root inode is known in the art and that it would have been obvious to make a copy of the root inode for back up. However, these assertions do not address every element of the claims. Each of the claims listed above requires that the on-disk root inode be updated and then a copy of the on-disk inode be updated so that the copy of the root inode still points to the first consistent state of the file system. The proposed rejection only asserts that making a copy of the root inode, which is not even an element of the claims, would have been obvious without addressing any of the other elements of the claim.

#### **Ground 18**

63. Requester asserts that claims 1, 9, and 17 are anticipated by Belsan. Requester's proposed rejections of claims 1, 9, and 17 are **not adopted**. The claims recite the limitation "said on-disk inode pointing directly and indirectly to a first set of blocks on said storage system ..." The proposed rejections fail to point out where this limitation is taught by Belsan. Belsan's Figures 2 and 3 show direct pointing of records but discloses no "inode" that points **directly and indirectly** to a first set of blocks.



Application/Control Number: 95/000,328  
Art Unit: 3992

Page 28

**Ground 19**

64. Requester asserts that claims 1, 9, and 17 are anticipated by Noveck. Requester's proposed rejections of claims 1, 9, and 17 are **adopted**.

65. Claim 1, 9, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Noveck.

The proposed rejections of these claims are essentially adopted as set forth in the Request. See Request pp. 74-76, which are hereby incorporated by reference.

**Ground 20**

66. Requester asserts that claims 1-6, 6-14, and 17-22 are anticipated by Gray. Requester's proposed rejections are **not adopted**. All of the claims recite the limitation "said on-disk inode pointing directly and indirectly to a first set of blocks on said storage system ..." The proposed rejections fail to point out where this limitation is taught by Noveck. Noveck's directory structure shown in Figure 7, shows indirect pointing of file data pages from a directory root but does not show a "root inode" that points **directly and indirectly** to a first set of blocks.

***Amendment in Reexamination Proceedings***

67. Patent Owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c).

Application/Control Number: 95/000,328  
Art Unit: 3992

Page 29

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, after final rejection and 37 CFR 41.33 after appeal, which will be strictly enforced. See MPEP § 2250(IV) for examples to assist in the preparation of proper proposed amendments in reexamination proceedings.

#### ***Service of Papers***

68. After filing of a request for ex parte reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. The document must reflect service or the document may be refused consideration by the Office. See 37 CFR 1.550(f).

#### ***Extensions of Time***

69. Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that *ex parte* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

Application/Control Number: 95/000,328

Page 30

Art Unit: 3992

All correspondence relating to this *ex parte* reexamination proceeding should be directed as follows:


By U.S. Postal Service Mail to:

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900  
Central Reexamination Unit

By hand to: Customer Service Window  
Randolph Building  
401 Dulany St.  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Reexamination Legal Advisor or Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

  
Woo H. Choi  
Primary Examiner  
Central Reexamination Unit 3992

  
N  
ESK

PTO/SB/08a (11-07)

Approved for use through 11/30/2007. OMB 0651-0031


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Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		Patent Number	6,852,211
		Issue Date	May 10, 2005
		First Named Inventor	Hitz et al.
		Art Unit	N/A
		Examiner Name	N/A
(Use as many sheets as necessary)		Attorney Docket Number	347155-29
Sheet	1	of	2

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
Whe		US- 5,379,391	01-03-1995	Belsan et al.	
Whe		US- 5,218,695	06-08-1993	Noveck	
		US-			
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> "Number" <sup>4</sup> "Kind Code" <sup>5</sup> (if known)				

Examiner Signature		Date Considered	8/19/08
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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347155-29

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PTO/5B/08b (11-07)

Approved for use through 11/30/2007. OMB 0551-0031

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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		Patent Number	6,892,211
		Issue Date	May 10, 2005
		First Named Inventor	Hitz et al.
		Art Unit	N/A
		Examiner Name	N/A
Sheet 2 of 2	Attorney Docket Number	347155-29	

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
Wlc		Quinlan, <i>A Cached WORM File System</i> , Software – Practice And Experience, Vol. 21(12), 1289-1299, December 1991 ("Quinlan").	
		Popek, Walker, <i>The LOCUS Distributed System Architecture</i> , MIT Press, Cambridge, Mass., 1985 ("Popek").	
		Ylonen, <i>Concurrent Shadow Paging: A new Direction for Database Research</i> , Helsinki University of Technology, TKO-B86, 1992 ("Ylonen").	
		Margo Ilene Seltzer, <i>File System Performance and Transaction Support</i> , Doctoral Dissertation, UC Berkeley, 1992 ("Seltzer").	
		Schilling, <i>Design and implementation of a fast file system for Unix with special consideration of technical parameters of optical storage media and multimedia applications</i> , Thesis submitted to Technical University of Berlin on 5/23/1991, translated from German. ("Schilling"). All pages cited are to the English translation.	
		Leffler, McKusick, et. al., <i>4.3BSD Unix Operating System</i> , Addison-Wesley Publishing Co., 1990 ("Leffler").	
		Bach, <i>The Design of the Unix Operating System</i> , Prentice Hall, 1990 ("Bach").	
		Rosenblum, Ousterhout, <i>The LFS Storage Manager</i> , Computer Science Division, Electrical Engineering and Computer Sciences, University of California, Summer '90 USENIX Technical Conference, Anaheim, California, June 1990. ("Rosenblum").	
		Rosenblum, Ousterhout, <i>The Design and Implementation of a Log-Structured File System</i> , Proceedings of the 13th ACM Symposium on OS Principles, 1991 ("Rosenblum and Ousterhout").	
		Kent, <i>Performance and Implementation Issues in Database Crash Recovery</i> , Ph.D. Dissertation, Princeton University, 1985 ("Kent").	
		Gray et al., <i>The Recovery Manager of the System R Database Manager</i> , ACM, 1981 ("Gray").	

Examiner  
Signature


8/19/08


<b>Reexamination</b> 	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95000328	6892211
	Certificate Date	Certificate Number

Requester Correspondence Address:	<input type="checkbox"/> Patent Owner	<input checked="" type="checkbox"/> Third Party
<p>Ronald L. Yin DLA Piper US LLP 2000 University Avenue East Palo Alto, CA 94303</p>		

LITIGATION REVIEW <input checked="" type="checkbox"/>	whc (examiner initials)	08/19/2008 (date)
Case Name	Director Initials	
Network Appliances v. Sun Microsystems 3:07cv6053	Liu, Hearsh For om	
Network Appliances v. Sun Microsystems 9:07cv206 - closed	↓	

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
1. none	

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<b>Search Notes</b>	<b>Application/Control No.</b>	<b>Applicant(s)/Patent under Reexamination</b>	
	95/000,328	6892211	
	<b>Examiner</b>	<b>Art Unit</b>	
	Woo H. Choi	3992	

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
Review of Prosecution history	8/19/2008	WHC

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner